

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (original): A method of forming a thin film of vinylidene fluoride homopolymer comprising I-form crystal structure alone or as main component, the method comprises applying, on a substrate, a vinylidene fluoride homopolymer which contains, at one end or both ends thereof, a moiety represented by the formula (1):



wherein R^1 is a divalent organic group but does not contain a structural unit of the vinylidene fluoride homopolymer; n is 0 or 1; Y is a functional group, and has a number average degree of polymerization of vinylidene fluoride homopolymer unit of 3 to 100, to form a thin film of the vinylidene fluoride homopolymer comprising I-form crystal structure alone or as main component.

2. (original): The method of forming a thin film of Claim 1, wherein in the vinylidene fluoride homopolymers comprising I-form crystal structure alone or as main component, when attention is given to proportions of the respective vinylidene fluoride homopolymers having I-, II- or III-form crystal structure in the thin film of vinylidene fluoride

homopolymer which are calculated by IR analysis, the proportion of vinylidene fluoride homopolymers having I-form crystal structure satisfies both of (Equation 1):

$$100 \geq \text{I-form} / (\text{I-form} + \text{II-form}) > 50 \% \text{ by weight} \quad (\text{Equation 1})$$

and (Equation 2):

$$100 \geq \text{I-form} / (\text{I-form} + \text{III-form}) > 50 \% \text{ by weight} \quad (\text{Equation 2}).$$

3. (currently amended): The method of forming a thin film of Claim 1-~~or 2~~, wherein Y in the formula (1) is a functional group which can impart, to the vinylidene fluoride homopolymer, adhesion to the substrate of organic material and/or inorganic material.

4. (currently amended): The method of forming a thin film of Claim 1-~~or 2~~, wherein Y in the formula (1) is a functional group which can make self-organization of vinylidene fluoride homopolymer possible on the surface of the substrate of organic material and/or inorganic material.

5. (currently amended): The method of forming a thin film of Claim 1-~~or 2~~, wherein Y in the formula (1) is a functional group which can bond vinylidene fluoride homopolymers each other.

6. (original): The method of forming a thin film of Claim 4, wherein Y in the formula (1) is -CH=CH₂, -SH and / or -SiX_{3-n}R⁶_n (n is 0 or an integer of 1 or 2; R⁶ is CH₃ or C₂H₅; X is -OR⁷, -COOH, -COOR⁷, -NH_{3-m}R⁷_m, -OCN or halogen atom (R⁷ is CH₃, C₂H₅ or C₃H₇, m is 0 or an integer of 1 to 3)).

7. (original): The method of forming a thin film of Claim 5, wherein Y in the formula (1) is -CH=CH₂, -OCOCH=CH₂, -OCOCF=CH₂, -OCOC(CH₃)=CH₂ or -OCOCCl=CH₂.

8. (original): A laminated article which has, on a substrate, a self-organized thin film formed by using vinylidene fluoride homopolymers comprising I-form crystal structure alone or as main component and having a number average degree of polymerization of vinylidene fluoride homopolymer unit of 3 to 100.

9. (original): A laminated article which has, on a substrate, a thin film formed by bonding of vinylidene fluoride homopolymers comprising I-form crystal structure alone or as main component and having a number average degree of polymerization of vinylidene fluoride homopolymer unit of 3 to 100.

10. (currently amended): The laminated article of Claim 8-~~or~~-9, wherein in the vinylidene fluoride homopolymers comprising I-form crystal structure alone or as main

component, when attention is given to proportions of the respective vinylidene fluoride homopolymers having I-, II- or III-form crystal structure in the thin film of vinylidene fluoride homopolymer which are calculated by IR analysis, the proportion of vinylidene fluoride homopolymers having I-form crystal structure satisfies both of (Equation 1):

$$100 \geq \text{I-form} / (\text{I-form} + \text{II-form}) > 50 \% \text{ by weight} \quad (\text{Equation 1})$$

and (Equation 2):

$$100 \geq \text{I-form} / (\text{I-form} + \text{III-form}) > 50 \% \text{ by weight} \quad (\text{Equation 2}).$$

11. (original): The laminated article of Claim 8, wherein the self-organized film formed by using the vinylidene fluoride homopolymers comprising I-form crystal structure alone or as main component is formed by using vinylidene fluoride homopolymers having a number average degree of polymerization of vinylidene fluoride homopolymer unit of 3 to 100 and containing, at one end or both ends thereof, a moiety represented by the formula (1-1):



wherein R¹ is a divalent organic group but does not contain a structural unit of the vinylidene fluoride homopolymer; n is 0 or 1; Y¹ is -SH and/or -SiX_{3-n}R⁶_n (n is 0 or an integer of 1 or 2; R⁶

is CH₃ or C₂H₅; X is -OR⁷, -COOH, -COOR⁷, -NH_{3-m}R^{7m}, -OCN or halogen atom (R⁷ is CH₃, C₂H₅ or C₃H₇, m is 0 or an integer of 1 to 3)).

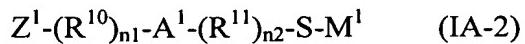
12. (original): The laminated article of Claim 9, wherein the thin film formed by bonding of the vinylidene fluoride homopolymers comprising I-form crystal structure alone or as main component is formed by using vinylidene fluoride homopolymers having a number average degree of polymerization of vinylidene fluoride homopolymer unit of 3 to 100 and containing, at one end or both ends thereof, a moiety represented by the formula (1-2):



wherein R¹ is a divalent organic group but does not contain a structural unit of the vinylidene fluoride homopolymer; n is 0 or 1; Y² is -CH=CH₂, -OCOCH=CH₂, -OCOCF=CH₂, -OCOC(CH₃)=CH₂ or -OCOCCl=CH₂.

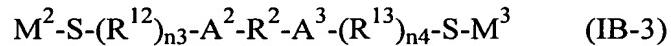
13. (currently amended): A ferroelectric device comprising the laminated article of Claim 8 ~~any of Claims 8 to 12.~~

14. (original): A vinylidene fluoride homopolymer represented by the formula (IA-2):



wherein A^1 is a structural unit of vinylidene fluoride homopolymers having a number average degree of polymerization of 3 to 100; Z^1 is a polyfluoroalkyl group or an alkyl group; R^{10} and R^{11} are the same or different and each is a divalent organic group but does not contain a vinylidene fluoride homopolymer unit comprising I-form crystal structure alone or as main component; $n1$ and $n2$ are the same or different and each is 0 or 1; M^1 is hydrogen atom or alkali metal atom.

15. (original): A vinylidene fluoride homopolymer represented by the formula (IB-3):



wherein A^2 and A^3 are the same or different and each is a structural unit of vinylidene fluoride homopolymers and a total number average degree of polymerization of A^2 and A^3 is from 3 to 100; R^2 is a divalent organic group but does not contain a structural unit of the vinylidene fluoride homopolymer; R^{12} and R^{13} are the same or different and each is a divalent organic group but does not contain a structural unit of the vinylidene fluoride homopolymer; $n3$ and $n4$ are the same or different and each is 0 or 1; M^2 and M^3 are the same or different and each is hydrogen atom or alkali metal atom.

16. (new): The method of forming a thin film of Claim 2, wherein Y in the formula (1) is a functional group which can impart, to the vinylidene fluoride homopolymer, adhesion to the substrate of organic material and / or inorganic material.

17. (new): The method of forming a thin film of Claim 2, wherein Y in the formula (1) is a functional group which can make self-organization of vinylidene fluoride homopolymer possible on the surface of the substrate of organic material and/or inorganic material.

18. (new): The method of forming a thin film of Claim 2, wherein Y in the formula (1) is a functional group which can bond vinylidene fluoride homopolymers each other.

19. (new): The laminated article of Claim 9, wherein in the vinylidene fluoride homopolymers comprising I-form crystal structure alone or as main component, when attention is given to proportions of the respective vinylidene fluoride homopolymers having I-, II- or III-form crystal structure in the thin film of vinylidene fluoride homopolymer which are calculated by IR analysis, the proportion of vinylidene fluoride homopolymers having I-form crystal structure satisfies Both of (Equation 1):

$$100 \geq \text{I-form} / (\text{I-form} + \text{II-form}) > 50 \% \text{ by weight} \quad (\text{Equation 1})$$

and (Equation 2):

$$100 \geq \text{I-form} / (\text{I-form} + \text{III-form}) > 50 \% \text{ by weight} \quad (\text{Equation 2}).$$

Preliminary Amendment
Appln. No.: National Stage of PCT/JP2005/004102

20. (new): A ferroelectric device comprising the laminated article of

Claim 9.